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DISEASE SURVEY OF SOYBEAN NURSERIES IN THE SOUTH

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THE PLANT DISEASE SURVEY
DIVISION OF MYCOLOGY AND DISEASE SURVEY

Plant Industry Station Beltsville, Maryland

DISEASE SURVEY OF SOYBEAN NURSERIES IN THE SOUTH[1]

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INTRODUCTION

During the past three summers (1944-1946), a survey has been made of the diseases occurring on the varieties and strains of soybeans in the regional nurseries grown as a cooperative project between the U. S. Regional Soybean Laboratory, Urbana, Illinois, and the State Agricultural Experiment Stations in the South.

All regional uniform nurseries consist of 20-foot randomized rows of each variety tested replicated four times. They are in charge of a Station or a cooperating Federal Agronomist and are located at the Experiment Station and at one or more field stations in some States. At many stations the cooperator in charge of the nursery assisted in taking the notes. The States covered by this survey include Alabama, Georgia, Louisiana, Mississippi, and one station in South Carolina.

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[3]Cooperators to whom credit is due for assistance in obtaining the data presented herein at their respective stations are Mr. P. R. Henson, Dr. H. W. Johnson, and Mr. R. B. Carr, Stoneville, Miss., Dr. S. J. P. Chilton and Dr. J. P. Gray, Baton Rouge, Louisiana, Dr. Coyt Wilson and Mr. E. F. Schultz, Auburn, Alabama, Mr. J. L. Stephens, Tifton, Georgia, and Mr. W. E. Adams, Watkinsville, Georgia, and Dr. U. R. Gore, Experiment, Georgia.

For their convenience, the cooperating agencies have arranged the soybean varieties used in the uniform nurseries in groups numbered from 0 to VIII according to maturity. Groups 0 to IV-S are grown largely in the north and central sections of the United States and Groups VI to VIII are grown in the Southern States. This survey was concerned largely with Groups VI to VIII; but, because of the interest in parts of the South in soybeans that mature early in September, the varieties and strains of Group IV-S were grown at a number of locations. Through the mid-South, the soybeans of Group VI normally mature from October 1 to 15; those of Group VII, October 16 to 30; and those of Group VIII after November 1. Usually two or more groups were grown at a location.

It is, of course, understood that the data presented in this paper are of such a nature that, at least for the most part, only tentative conclusions can be drawn. Some of the data presented, however, are highly suggestive and indicate quite clearly in what varieties resistance may be found. The proper rating of the varieties intermediate in resistance can only be determined by careful experimental testing. This is true largely because of the scarcity of disease in some nurseries and a lack of uniformity of infection in others.

METHODS

Readings were made on one or two dates each year. Since time would not have permitted making counts, even if that had been considered worth while, the relative resistance of the varieties was determined by inspection only. There was so much variation in the stage of development of the diseases present at the different locations as a result of differences in date of seeding, soil type, geographical location, and other factors that it did not seem practical to make too close readings. For this reason ratings on a scale in which 0 = no disease, 1 = very slight, 2 = medium, 3 = considerable, 4 = severe, and 5 = very severe were adopted. Occasionally an intermediate reading seemed justified and then a rating of 1/2 was used (e. g., 2 1/2, 3 1/2, etc.). Such ratings are, of course, arbitrary and their value naturally varies with the observer. The ratings presented in this paper were checked on numerous occasions by other pathologists and agronomists and, for the most part, there was close agreement among the different ratings. When practical the readings were made by two persons; and, if these were at variance, an agreement was reached. All the readings at each location were made the same day, but those at different locations covered a period of a little over a month. This fact must be taken into consideration in appraising the data, since the diseases usually became progressively more severe as the season advanced.

RESULTS

So many figures have been obtained during the past three years that it is not feasible to present all of them. For this reason only the readings for pustule-blight, frogeye, wildfire, and mosaic made in 1946 are given in detail (Tables 1-12) and the data for the three years are summarized (Tables 13-16). The data in Tables 1-12 are typical of those obtained for all three years. No readings are recorded for certain varieties at some locations because such varieties were missing, usually as a result of a shortage of seed. The data are presented under the heading of the different diseases.

Bacterial Pustule-Blight Complex

The most widespread and prevalent of the diseases encountered were the bacterial leaf spots, bacterial pustule (Xanthomonas phaseoli var. sojense (Hedges) Starr & Burkholder), and bacterial blight (Pseudomonas glycinea (Coerper) Stapp). The symptoms of these two diseases are so similar, especially in late stages of development, that they were rated as one disease. For the most part, pustule appeared to be far more prevalent than blight although some varieties are very susceptible to the latter. The data in Tables 1-3 and those dealing with pustule-blight in Tables 13-16, therefore, represent a mixture of pustule and blight. Since these two diseases are considered as one, the name pustule-blight seems appropriate.

A study of the data for Group VI (Table 1) shows that there is a variation of two or three points in the ratings of replications at a location, but more commonly the variation is not greater than one point. In 26 percent of the nurseries the readings were the same for all four replications. The two readings given for Stoneville, Mississippi, were made on plots planted on two different dates, namely, on April 18 and May 29, respectively. The earliest readings for the season were made at Tallassee, Alabama, on July 22 and the latest at Watkinsville, Georgia, on August 30. The planting at Tallassee had little disease at the time the readings were made. At Fairhope, Alabama, the readings ranged from 1 for Ogden and Dortchsoy #2 to 5 for Burdette #19. As might be expected, there was a slightly higher average reading in the earlier planting at Stoneville. The ratings at Watkinsville were influenced by two factors, namely, drought and insect damage, which, at least in part, account for the lower readings. As was usually the case, the readings at Baton Rouge, Louisiana, were higher than elsewhere, being influenced largely by high rainfall at that location. It should be pointed out that Ogden, a variety usually freer of disease than most of the others, rated fairly high at Baton Rouge, although it still had less disease than all of the others except Dortchsoy #2. These two varieties gave what appeared to be significantly lower average readings and may be considered as possessing some resistance to pustule-blight.

Some of the points noted above for Group VI (Table 1) also apply to Groups VII and VIII (Tables 2 and 3). For example, there was little pustule-blight at Tallassee, but the disease was prevalent at Stoneville and Baton Rouge. Since Groups VII and VIII were more widely planted than Group VI, additional locations appear in these tables. The diseases were quite prevalent at Tifton, Georgia; Blackville, South Carolina, where there were two dates of seeding; and at Fairhope. With a few exceptions the diseases were slightly more severe at Blackville in the early planting. Ogden, which was the only variety repeated in Group VII, again rated lower than most of the others and must be considered in a class with Palmetto and C-N-S. In Group VIII Cherokee and Louisiana Green showed the most resistance. Louisiana Green appeared to be outstanding in its resistance to these diseases even at Baton Rouge where Ogden and C-N-S sometimes showed considerable disease. This is the first year (1946) observations were made on Louisiana Green, however, and, even though it looked exceedingly promising, final judgment as to its resistance must be withheld for the present. Observations over a period of years have shown that a variety that appears to be relatively resistant one year does not necessarily appear so in succeeding years.

Wildfire

Wildfire (Pseudomonas tabaci (Wolf & Foster) Stapp) seems to be increasing in importance from year to year. At least that has been true in some plots observed by the writer during the past three years. This disease is erratic in its appearance, often being severe at one end or at the center of a row and absent from the other parts. This has made it difficult to rate the severity of the disease accurately. In general, however, those with whom the matter was discussed agreed that the part of the row most severely affected represented the resistance of the variety, the absence of the disease from the remainder of the row being attributed to lack of inoculation. The ratings, therefore, were based on the part of the row most severely affected.

The data in the Tables 4-6 show that there was no wildfire at Fairhope, Alabama, in the 1946 nursery except for a trace in one row each of Mamotan and Gatan in Group VIII (Table 6). In Group VI the disease was most severe at Stoneville, Mississippi, with the exception of a few rows at Watkinsville, Georgia. The same is true in Group VII (Table 5). In Group VIII wildfire was most severe at Stoneville, and at Tifton,Georgia. Even at locations where wildfire was not severe it varied greatly on different varieties. For example, in Group VII Roanoke, Volstate, Wood's Yellow, and P.I. 54618-4-1-2 were the only varieties severely affected, and in these varieties the degree of infection sometimes varied from 0 to 3 in different replications at the same location, suggesting a lack of uniformity in the distribution of the inoculum. In Group VIII Vamloxi, Acadian, Mamotan, Nanda, and Coker's Selection #433 were most severely affected. If any varieties

are to be selected as resistant on the basis of the data presented in Tables 4-6 they are Ogden, Dortchsoy #2, P. C. 30261-1, Palmetto, C-N-S, Cherokee, and Louisiana Green.

Frogeye

In general, frogeye (Cercospora sojina Hara) was not severe in 1946, except in some varieties at Baton Rouge, Louisiana, and at Stoneville, Mississippi. Three varieties in Group VI, Ogden, Rose Non-pop, and Burdette #20, and three of Group VIII, Acadian, Gatan, and Cherokee, were medium to very severely affected at Baton Rouge. In Group VII six varieties, N44-774, Palmetto, C-N-S, N42-26, N44-92, and Red Tanner, were medium to very severely affected at Baton Rouge. The last three of these varieties were moderately diseased at Stoneville, but the other three had no frogeye or only a trace of the disease. This, together with the fact that in Group VI Ogden was listed among the susceptible varieties at Baton Rouge and in Group VII it was not, indicates that caution is necessary in drawing final conclusions regarding resistance to frogeye.

Mosaic

Each year observations were made on the presence of mosaic, but there was so little of the disease in most places that the data for 1946 only are given (Tables 10-12). The disease was most evident at Tallassee, Alabama, where there was a trace in all varieties and where a few were moderately affected. The most seriously affected varieties observed in 1946 (having an average rating of 1.0 or over), were Rose Non-pop, Burdette #13, Palmetto, Manda, Mamotan, Gatan, Seminole, C-N-S, Acadian, N44-774, N44-92, Cherokee, Red Tanner, Mamloxi, and Louisiana Green. If any variety is to be classed as resistant on the basis of these data, especially the ratings at Tallassee, it is Ogden, and possibly Dortchsoy #2, although neither is immune.

Summary of Data for 1944-1946

Having observed the nature of the data secured and the variations obtained in the different replications and locations, the summary tables following should be largely self-explanatory. These tables give the averages of the readings for all locations for pustule-blight, wildfire, frogeye, and downy mildew. Table 13 gives the data for Group IV-S. In this Group in 1944 Chief appeared to show some resistance to pustule-blight, but this was not confirmed in 1945. The figures fail to indicate that any variety in this Group is appreciably resistant to pustule-blight. The data for wildfire indicate that S100 and Gibson are more susceptible to wildfire than some of the others; but, as in the case of pustule-blight, there is no satisfactory evidence of resistance. The data for the three years seem to support the statement made previously that wildfire is increasing in severity. The average amount of

wildfire found on all varieties in 1944 was small. There was a slight increase in 1945, especially in S100 and Gibson; and a further increase in these varieties, as well as in some others, in 1946. No data for frogeye were obtained for Group IV-S in any of the three years. Downy mildew [Peronospora manshurica] was seldom present in more than trace amounts, but sometimes it did appear in considerable abundance on certain varieties. This disease was of so little importance in 1944 that no notes were taken except on Group IV-S. In 1944, S55-10 and S55-35 rated an average of 1.0 and 1.8, respectively, whereas all of the other varieties rated below 1.0. No mildew was found on Chief either in 1944 or 1945, indicating that this variety may be resistant.

Table 14 gives the corresponding data for the three years for Group VI. In this group Ogden possessed the highest degree of resistance to pustule-blight in all three seasons, being equaled only by Dortchsoy #2 in 1946. The data for wildfire showed much the same thing. Here again Ogden rated most resistant. Dortchsoy #2 was second in 1946, the only year it was tested. The differences between the ratings for these varieties and those of the next in order, except possibly in 1946, however, are so slight that they probably are not significant.

A number of varieties in Group VI, namely, Arksoy, Ralsoy, 2-40A, 6-40M, Dortchsoy #2 and #7, and Burdette #13 and #19, appeared to be resistant to forgeye. Ogden, Burdette #20 and Rose Non-pop were especially susceptible in 1946. There was little more than a trace of downy mildew on any variety in Group VI in 1945 and 1946.

In Group VII (Table 15) Ogden, C-N-S, and Palmetto were most resistant to pustule-blight. Ogden rated most resistant to wildfire all three years. C-N-S rated high at Baton Rouge in 1944, otherwise it seemed to be as resistant as Ogden. The severity of wildfire on Palmetto at Baton Rouge in 1944 was responsible for its higher average rating in 1944 over those in 1945 and 1946. P.C. 30261-1 in 1946, and Rose Non-pop in 1944, received low ratings; but, since these were not rated other years, they cannot be considered as resistant without further confirmation. Most of the varieties in this group were only slightly affected with frogeye, but a few, such as Tennessee Non-pop, Rose Non-pop, Missoy, P.I. 89775-A, N44-92, N42-26, and Red Tanner, showed more disease than the others. Three varieties, namely Wood's Yellow, 26-39M, and C-N-S, had a medium amount of downy mildew, but no serious damage was done. Wood's Yellow was one of the most susceptible of the varieties observed. If the disease was present in a nursery at all, it could be found on this variety. Even on Wood's Yellow, however, the disease never caused sufficient damage to be of appreciable economic importance although the total functional leaf area was reduced somewhat.

In Group VIII (Table 16) Cherokee and Louisiana Green appeared to be the most resistant varieties to pustule-blight. Since only one year's

readings for Louisiana Green are available, the resistance indicated must be considered as suggestive only. Where observed, however, this variety appeared to be outstanding in its freedom from the pustule-blight disease. Cherokee, Louisiana Green, and Avoyelles appeared to have more resistance to wildfire than the others in Group VIII. It appears from the data presented in Tables 13-16 that, if resistance to wildfire exists in the varieties studied, it is present in Ogden, C-N-S, Palmetto, Cherokee, and possibly Louisiana Green and Dortchsoy #2. These are the same varieties that rated most resistant to pustule-blight. This suggests that there might be a common factor for resistance to these bacterial diseases. Dr. W. B. Allington, who has made the most complete study to date of wildfire on soybeans, comments as follows in a letter to Dr. Howard W. Johnson on this subject:

"From what I have seen at various times, I would naturally expect a variety which has resistance to bacterial pustule to show much less wildfire. The conditions for infection with wildfire are very critical and this organism finds lesions such as a bacterial pustule a very suitable location for penetration. The presence of the pustules in that case merely tip the scale far enough to make wildfire infection possible. In certain situations, therefore, one may be led to suspect wildfire resistance in the same varieties that have pustule resistance, but it may not occur at all. Under other conditions, perhaps the same varieties would be completely susceptible."

What Dr. Allington suggests might happen appears to have taken place at Baton Rouge, Louisiana, in 1944 in C-N-S, which rated, 3, 4, 4, and 4 in the four replications. Under these same conditions Ogden rated 2, 1, 1, and 1, and Palmetto 2, 1, 2, and 3. Resistance of Ogden to pustule-blight likewise broke down under the same conditions as shown by the readings 3, 4, 4, and 3. It usually reads 1 or at most 2.

Acadian, Gatan, Cherokee, and Avoyelles were very susceptible to frogeye and the others were more or less resistant. Wood's Yellow was included in Group VIII, as well as Group VII, and again was outstanding in its susceptibility to downy mildew. Mamotan, Mamloxi, and Delsta, likewise, had a moderate number of lesions, but not enough to be of economic importance.

During these survey trips a number of other diseases of soybeans were noted, both in the nurseries and in other plots and fields. Among the most important of these diseases are: pod and stem blight (Diaporthe phaseolorum var. sojae (Lehm.) Wehmeyer), charcoal rot (Macrophomina phaseoli (Maubl.) Ashby), sclerotial blight (Sclerotium rolfsii Sacc.), anthracnose (Glomerella glycines (Hori) Lehm. & Wolf), leaf spot (Alternaria sp. or possibly arsenic injury), Phyllosticta leaf spot (Phyllosticta phaseolina Sacc.) bud blight (tobacco ring-spot virus), and an unknown virus disease.

In the 1944 survey an attempt was made to obtain some figures on the prevalence of pod and stem blight, charcoal rot, anthracnose, and sclerotial blight. These diseases were most prevalent at Stoneville, Mississippi, and Baton Rouge, Louisiana, especially during the latter part of the growing season. Under prevailing conditions at these locations, the soybeans made such a vigorous vegetative growth that the tops of adjacent rows often intermingled, shading the bases of the plants during most or all of the day. Furthermore, dews were heavy and rains were frequent so that the foliage often was wet nearly every night and for a considerable part of each forenoon. The stems and leaves about the bases of the plants, being heavily shaded, remained under conditions of high humidity and low light intensity for a large part of the time. Under these conditions the fungi that cause anthracnose, pod and stem blight, and charcoal rot developed rapidly. Many of the lower branches were killed back to the main stem. Some of the smaller plants, such as those dwarfed by crowding in thick stands, those that had a poor start because of delayed emergence, or those that were partly or wholly girdled by insects, often were killed by one or more of these diseases. Hasty study of this disease complex, such as was necessary under these survey conditions, indicated that data obtained under such conditions might be more confusing than useful. As nearly as could be determined in the time available, anthracnose was responsible for much of the killing, and the weakened or dead tissue was then invaded by secondary fungi. There is little doubt that, under suitable conditions, the pod and stem blight fungus can invade tissue not previously killed by some other fungus, but the extent to which this took place under the field conditions described could not be determined. From the observations made, this disease situation seemed to be so complicated that it was decided to abandon any attempt to estimate the prevalence of each disease and to leave this problem for intensive study by pathologists at these locations. So far as could be seen in the nurseries in 1944, there were no varieties resistant to the anthracnose, pod and stem blight, or charcoal rot. These diseases were of little or no importance in locations where the vegetative growth was less and the humidity lower.

Sclerotium rolfsii is commonly present in soybean fields in the South, but during the course of this survey no really serious epiphytotic produced by it was seen. The highest number of plants observed to be infected or killed by this fungus in a single 20-foot row was 30. The plants attacked were sometimes isolated but were commonly in small groups, sometimes occupying a foot or so of space in a row. Sometimes there were several centers of infection, but seldom were as many as 50 percent of the plants in a row involved. More commonly not more than one or a very few plants in a row were infected. Consequently the total loss of plants was not serious. In no nursery was the infection sufficiently uniform to make an estimate of the percentage of diseased plants in the different varieties of any value.

In 1945 the leaves of many varieties of soybeans in the nursery and an adjacent field at Stoneville, Mississippi, had large brown spots with concentric rings resembling lesions produced by Alternaria or possibly by arsenic (U.S.D.A. Farmer's Bull. 1937, figs. 10 and 11). The centers of many of the spots were frogeye lesions, typical fruiting structures of Cercospora sojina being present in abundance. The frogeye lesions appeared to have been invaded and enlarged by an Alternaria sp. or other fungus. An airplane dusting cotton sometimes circled over the field, and some arsenic drifted from the plane over the soybeans. Although the soybean plants were not defoliated, as when dusted heavily with an arsenical the possibility is suggested that enough arsenic to cause the damage reached the leaves and entered the tissue through lesions already present as a result of infection by the frogeye or other fungus or bacterium. There was some evidence that the pustule and wildfire lesions also served as points of entry for the causal agent of these larger spots. Similar lesions were not found elsewhere that year, but were found again at Stoneville in 1946, although in much smaller numbers, in plots that, so far as known, had received no arsenical dust. The precise nature of the agent that entered and enlarged these frogeye or other lesions under Stoneville conditions remains to be determined.

Phyllosticta leaf spot was present in several locations, but usually there were only a few lesions on a leaf and only a few leaves here and there were infected. Hence, the disease was of no economic importance.

Bud blight was seen in two locations in Georgia in 1944 and in one nursery in Arkansas in 1945. In all places the damage was slight and was limited to a few plants.

Traces of an undetermined virus disease were found at Richmond Hill, Georgia, in 1945 and at Experiment, Georgia, in 1946. The symptoms were seen in the leaves only and consisted of rather large irregular pale green areas often with narrow dark concentric lines. Attempts made by Dr. W. B. Allington at Urbana, Illinois, to transmit this disease from material sent from Experiment, Georgia, and by the writer at Experiment, failed.

SUMMARY

A disease survey of soybean nurseries located in Alabama, Georgia, Louisiana, Mississippi, and South Carolina was made each year from 1944 to 1946 inclusive. The chief purpose of this survey was to obtain information on the diseases present and their severity, and to determine whether any of the soybean varieties were resistant. Disease readings were made once or twice during the latter part of the growing season at each location. Readings were made on four replicated randomized 20-foot rows of each variety of soybean in Groups IV-S, VI, VII, and VIII in some nurseries and in two or three of the groups in others.

The readings on pustule-blight, wildfire, frogeye, and mosaic for 1946 and the averages of all readings for each year at all locations are given. Tables 1 to 12 give detailed data for 1946 and show the variations found in the different locations and in the different replications. The remaining tables (Tables 13-16) give the average figures for the three years.

The data presented indicate that the following varieties possess the greatest relative resistance to the bacterial pustule-blight complex: Ogden, C-N-S, Palmetto, Cherokee, and probably Louisiana Green and Dortchsoy #2, although only one season's data are available on the last two varieties. The resistance is only relative, since it breaks down more or less under certain conditions. Nevertheless, it is sufficiently stable to justify the use of such varieties, at least of Ogden and C-N-S, as breeding stock.

Resistance to wildfire, if there is any, will most probably be found in Ogden, C-N-S, Palmetto, Cherokee, and possibly Louisiana Green and Dortchsoy #2.

Some varieties were found to be outstandingly susceptible to frogeye, but the disease was seldom sufficiently severe to make possible a positive determination of the most resistant ones. The 1946 readings at Baton Rouge, where frogeye was rather severe on many varieties, indicated that the following probably are the most resistant varieties in Group VII: Roanoke, Volstate, P.I. 30261-1, and Wood's Yellow. On the other hand, the varieties Ogden, Rose Non-pop, and Burdette #20, in Group VI, and Acadian, Gatan, and Cherokee in Group VIII were highly susceptible to frogeye, and all the others were more or less resistant. In general, the hey types are more susceptible than the others.

There was so little downy mildew present on most varieties that no conclusions regarding their resistance can be drawn. Wood's Yellow, 26-39M, C-N-S, Delsta, Mamloxi, Nanda, and Mamotan were the most susceptible.

Mosaic was often present, but usually only in trace amounts. No final conclusions as to the most resistant varieties can be drawn from the data at hand, but the most seriously affected varieties observed in 1946 are: Rose-Non-pop, Burdette #13, Arksoy, Wood's Yellow, Palmetto, Roanoke, Volstate, Mamotan, Gatan, Seminole, C-N-S, Acadian, N44-774, N44-92, Red Tanner, Cherokee, Mamloxi, and Louisiana Green. If any variety were to be rated as resistant on the basis of the data obtained, it would be Ogden and possibly Dortchsoy #2.

Pod and stem blight, charcoal rot, sclerotial blight, anthracnose, leaf spot (Alternaria, or possibly arsenic), Phyllosticta leaf spot, bud blight, and an unknown virus disease were observed in the nurseries and in other plots and fields in the region.

Table 1. Bacterial pustule-blight ratings in soybean nurseries at several locations in 1946. Group VI

Location	Variety									
	Ogden	Rose Non-Pop	2-40A	Arksoy 2913	Dortch-soy #2	Dortch-soy #7	Burdette #13	Burdette #19	Burdette #20
Tallassee, Ala..	0	0	1	1	0	0	1	0	0
	0	1	1	1	0	1	2	0	1
7-22-46	1	1	1	1	0	3	1	1	1
	0	1	1	1	0	1	1	1	0
Fairhope, Ala.	1	3	3	4	1	4	3	5	4
	1	3	4	5	1	4	3	5	4
8-16-46	1	3	4	5	1	4	4	5	3
	1	3	4	5	1	5	4	5	4
Stoneville, Miss.	1	3	3	3	2	3	3	2	3
	2	4	4	1	2	4	4	4	3
8-14-46	1	4	4	4	1	4	4	4	3
	2	5	5	5	2	5	5	4	3
Stoneville, Miss.	1	3	3	3	1	2	2	3	2
	1	3	3	3	2	3	4	3	3
8-14-46	1.3	3	4	3	1	3	4	3	3
	1	4	1	3	2	4	3	3	3
Watkinsville, Ga.	2	1	1	3	3	1	1	1	1
	2	2	1	2	2	2	2	1	1
8-30-46	2	1	1	2	2	2	2	1	2
	2	1	2	3	2	2	3	2	2
Baton Rouge, La.	4	5	4	4	2	4	4	5	4
	3	4	5	4	2	4	4	5	3
8-15-46	3	4	4	4	2	5	4	5	4
	2	4	4	4	3	5	4	5	3
Average	1.5	2.8	2.8	3.1	1.5	3.1	3.0	3.0	2.5

Table 2. Bacterial pustule-blight ratings in soybean nurseries at several locations in 1946. Group VII

Location	Variety											
	Roanoke	Ogden	Vol-state	F.C. 30261-1	Wood's Yellow	P.I. 54618-4-1-2	N44-774	Palmetto	C-N-S	N42-26	N44-92	Red Tanner
Tallassee	1	0	0	0	1	0	1	0	0	0	0	1
Ala.	1	0	1	0	0	0	1	0	0	1	1	2
7-22-46	1	0	1	0	0	0	1	0	0	1	1	1
	1	0	0	0	1	0	1	1	0	1	0	1
Experiment	1	1	2	1	2	1	1	1	1	2	1	2
Ga.	1	1	1	1	1	1	1	1	1	2	2	1
7-19-46	2	1	1	1	2	1	1	1	1	1	1	1
	2	1	1	2	1	3	1	1	1	2	2	1
Fairhope	3	2	3	4	3	--	3	2	1	3	3	3
Ala.	3	1	3	3	3	--	2	2	1	3	2	3
8-16-46	3	1	3	3	3	--	3	1	1	3	3	3
	1	3	3	3	2	--	2	1	1	3	3	3
Stoneville	4	1	4	--	3	3	3	1	1	2	2	2
Miss.	4	1	4	--	3	3	3	1	1	2	2	2
8-14-46	5	2	5	--	4	3	2	1	1	2	2	4
	5	2	5	--	4	4	3	1	1	2	2	2
Stoneville	3	1	3	--	3	3	2	2	1	2	2	2
Miss.	3	1	3	--	2	3	2	3	1	2	1	2
8-14-46	4	1	4	--	3	4	3	1	1	3	3	3
	3	1	3	--	3	3	2	1	1	2	2	2

Location	Variety												
	Roanoke	Ogden	Vol-state	F.C. 30261-1	Wood's Yellow	P.I. 54618-4-1-2	N44-774	Pal-metto	C-N-S	N42-26	N44-92	Red Tanner
Watkinsville Ga. 8-30-46	1	1	3	--	1	--	3	1	1	1	1	1
	1	1	2	--	1	--	1	1	1	1	1	1
	2	2	2	--	1	--	--	1	1	2	1	1
	2	1	2	--	1	--	2	1	1	2	1	2
Tifton Ga. 8-27-46	4	2	4	--	4	--	3	2	2	3	4	3
	4	2	4	4	4	--	3	2	2	3	3	3
	4	2	4	3	4	--	2	2	2	3	2	3
	4	2	4	4	4	--	3	2	2	3	3	3
Blackville S. C. 8-29-46	3	2	3	--	2	--	2	1	1	3	2	4
	4	1	3	--	3	--	4	1	2	3	3	3
	4	3	2	--	3	--	3	1	1	4	3	2
	4	3	4	--	2	--	3	1	2	4	3	3
Blackville S. C. 8-29-46	3	3	1	--	1	--	3	0	1	2	1	3
	2	2	1	--	1	--	3	3	1	1	1	3
	1	2	2	--	2	--	3	3	1	3	3	3
	2	2	2	--	2	--	3	3	1	2	2	3
Baton Rouge La. 8-15-46	4	3	4	4	4	--	3	1	3	3	2	3
	4	3	4	3	4	--	2	1	2	5	3	4
	4	2	4	4	4	--	3	1	2	3	3	3
	4	2	4	--	5	4	3	1	1	3	3	3
Average	2.8	1.6	2.7	2.2	2.4	2.1	2.3	1.3	1.2	2.3	2.0	2.4

Table 3. Bacterial pustule-blight ratings in soybean nurseries at several locations in 1946. Group VIII

Location	Variety								
	Wam-loxi	Aca-dian	Mamo-tan	Nanda	Gatan	Semi-nole	Chero-kee	La. Green	Coker's Sel. #433
Tallassee	0	0	1	1	1	1	0	0	1
Ala.	1	1	1	2	1	1	1	1	1
7-22-46	2	1	1	1	2	1	0	0	1
	2	1	1	3	1	1	1	1	3
Experiment	3	3	2	3	3	2	1	1	2
Ga.	3	3	2	3	1	2	1	1	3
7-19-46	2	2	2	2	2	2	1	1	3
	3	1	2	1	2	2	1	1	1
Fairhope	2	3	3	3	3	2	2	1	3
Ala.	3	3	3	3	3	3	1	1	3
8-16-46	3	3	3	3	3	3	1	1	3
	3	3	3	3	3	3	2	1	3
Stoneville	2	1	2	2	2	2	1	1	2
Miss.	4	2	3	3	2	2	0	1	3
8-14-46	3	1	4	4	2	3	3	1	3
	3	3	3	3	3	3	2	1	3
Stoneville	2	3	2	2	2	2	1	1	2
Miss.	3	3	2	3	1	2	1	1	3
8-14-46	3	3	3	3	2	3	1	1	3
	3	3	3	3	3	3	2	1	2
Tifton	3	3	3	3	3	2	2	1	3
Ga.	3	3	4	3	3	2	2	1	3
8-27-46	3	3	4	3	3	4	2	1	3
	4	3	3	3	3	3	2	1	3
Baton Rouge	4	2	4	4	3	2	2	1	3
La.	3	2	3	4	3	3	3	1	4
8-15-46	3	2	4	3	3	2	2	1	3
	3	2	4	3	3	3	2	1	3
Average	2.7	2.3	2.7	2.8	2.4	2.3	1.4	0.9	2.6

Table 4. Wildfire ratings in soybean nurseries at several locations in 1946. Group VI

Location	Variety								
	Ogden	Rose: Non-pop	2-40A	Ark-soy 2913	Dortch-soy #2	Dortch-soy #7	Bur-dette #13	Bur-dette #19	Bur-dette #20
Fairhope, Ala. 8-16-46	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Stoneville, Miss. 8-14-46	1	3	2	3	1	3	3	3	2
	1	3	2	0	0	3	3	3	3
	0	4	4	2	1	3	4	3	2
	1	3	2	3	1	3	4	3	2
Stoneville, Miss. 8-14-46	1	3	4	4	1	4	3	3	2
	1	4	4	4	2	4	4	4	4
	1	4	4	4	1	4	3	4	2
	1	3	1	4	1	4	0	4	3
Watkinsville, Ga. 8-30-46	1	2	2	1	1	2	3	2	1
	1	1	1	1	1	1	1	2	0
	1	1	1	1	1	1	1	1	1
	1	3	1	1	2	3	2	2	1
Baton Rouge, La. 9-15-46	0	1	1	1	1	1	1	1	1
	0	1	1	1	1	1	2	1	1
	1	1	1	1	1	2	1	1	1
	1	1	1	1	1	1	1	1	1
Average	0.7	1.9	1.6	1.6	0.9	2.0	1.8	1.9	1.4

Table 5. Wildfire ratings in soybean nurseries at several locations in 1946. Group VII

Location	Variety													
	Roanoke	Ogden	Volstate	F.C. 30261-1	Wood's Yellow	P.I.54618-4-1-2	N44-774	Palmetto	C-N-S	N42-26	N44-92	Red Tanner		
Fairhope	0	0	0	0	0	--	0	0	0	0	0	0		
Ala.	0	0	0	0	0	--	0	0	0	0	0	0		
8-16-46	0	0	0	0	0	--	0	0	0	0	0	0		
	0	0	0	0	0	--	0	0	0	0	0	0		
Stoneville	3	0	2	--	2	2	1	1	1	1	1	1		
Miss.	3	0	2	--	2	2	1	1	1	1	1	1		
8-14-46	2	0	1	--	2	1	0	1	1	1	1	1		
	1	0	2	--	2	1	0	0	1	1	1	1		
Stoneville	3	1	3	--	3	3	1	1	0	1	1	2		
Miss.	4	1	4	--	3	4	2	1	1	2	1	2		
8-14-46	3	0	3	--	3	3	2	0	0	2	1	2		
	3	0	3	--	3	4	1	0	0	2	1	1		
Watkinsville	2	1	1	--	1	--	0	1	0	1	0	1		
Ga.	3	1	2	--	1	--	1	1	1	1	1	1		
8-30-46	3	1	2	--	0	--	0	0	0	1	0	1		
	1	1	1	--	0	--	1	0	0	1	1	0		
Tifton	0	1	1	0	1	--	2	0	0	1	1	0		
Ga.	3	0	2	0	2	--	1	0	0	2	2	2		
8-26-46	2	0	2	1	2	--	0	1	1	2	1	2		
	1	0	1	0	2	--	0	0	0	1	0	1		
Baton Rouge	1	0	1	1	1	--	1	0	1	1	1	1		
La.	1	1	1	1	1	--	1	1	1	1	1	1		
8-15-46	1	0	1	1	2	--	0	1	1	1	1	1		
	1	1	2	--	1	1	1	0	1	1	1	1		
Average	1.7	0.4	1.5	0.4	1.4	2.3	0.7	0.4	0.5	1.0	0.8	1.0		

Table 6. Wildfire ratings in soybean nurseries at several locations in 1946. Group VIII

Location	Variety								
	Mam-loxi	Aca-dian	Mamo-tan	Nanda	Gatan	Semi-nole	Chero-kee	La. Green	Coker's Sel. #433
Fairhope	0	0	1	0	1	0	0	0	0
Ala.	0	0	0	0	0	0	0	0	0
8-16-46	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Stoneville	1	2	2	1	1	1	1	1	2
Miss.	1.4	4	4	2	1	1	1	1	1
8-14-46	1	2	1	2	1	1	2	1	2
	1	1	1	2	1	1	0	0	1
Stoneville	1	3	2	2	1	2	0	0	3
Miss.	3	4	3	4	1	2	0	1	3
8-14-46	1	3	2	3	1	1	0	1	2
	2	2	2	3	1	1	0	1	2
Tifton	0	1	1	1	0	0	0	0	0
Ga.	1	1	0	2	0	1	0	0	1
8 -27-46	2	1	2	1	1	1	1	1	3
	1	2	1	2	1	0	1	1	2
Tifton	3	2	2	3	1	2	1	1	2
Ga.	2	4	1	3	2	1	1	1	3
8-27-46	2	1	1	3	1	0	0	0	2
	1	1	0	1	0	0	0	0	1
Baton Rouge	1	1	1	1	1	1	1	1	1
La.	1	1	1	1	1	1	1	1	2
8-15-46	1	1	1	1	1	1	0	1	1
	1	1	1	1	1	1	0	1	1
Average	1.1	1.6	1.3	1.6	0.8	0.8	0.4	0.6	1.5

Table 7. Frogeye ratings in soybean nurseries at several locations in 1946. Group VI

Location	Variety									
	Ogden	Rose Non-pop	2-40A	Arksoy 2913	Dortch-soy #2	Dortch-soy #7	Burdette #13	Burdette #19	Burdette #20
Fairhope, Ala. 8-16-46	1	1	0	0	0	0	0	0	0
	1	2	0	0	0	0	0	0	1
	1	1	0	0	0	0	0	0	1
	1	1	0	0	0	0	0	0	1
Stoneville, Miss. 8-14-46	1	1	0	0	1	0	1	0	2
	1	1	0	1	1	0	0	0	1
	1	1	0	1	1	0	2	0	2
	1	2	1	0	1	1	1	1	1
Stoneville, Miss. 8-14-46	1	1	0	0	0	0	0	0	1
	1.6	1	1	0	0	0	0	0	1
	1	2	0	0	1	0	1	0	1
	1	1	1	1	0	0	1	0	1
Baton Rouge, La. 8-15-46	3	3	1	0	1	1	1	1	4
	3	4	0	1	1	1	1	0	5
	2	2	1	1	1	1	0	0	4
	2	4	1	1	1	0	1	0	5
Average	1.4	1.8	0.4	0.4	0.6	0.3	0.6	0.1	1.9

Table 8. Frogeye ratings in soybean nurseries at several locations in 1946. Group VII.

Location	Variety														
	Roanoke	Ogden	Volstate	P.C. 30261-1	Wood's Yellow	P.I.54618 -4-1-2	N44-774	Palmetto	C-N-S	N42-26	N44-92	Red Tanner
Stoneville	0	1	0	--	1	1	1	0	0	1	1	2
Miss.	0	1	0	--	1	1	1	0	0	1	1	2
8-14-46	0	0	0	--	0	1	1	0	0	2	1	2
	1	1	1	--	1	0	0	1	1	2	2	1
Fairhope	0	1	0	0	0	--	1	1	0	1	1	1
Ala.	0	1	0	0	0	--	1	0	1	1	1	1
8-16-46	0	1	1	1	0	--	0	0	0	1	1	1
	0	1	0	0	0	--	1	0	0	1	1	1
Stoneville	0	1	1	--	0	0	1	0	1	3	2	3
Miss.	0	1	0	--	1	0	1	1	0	1	1	0
8-14-46	0	1	0	--	0	0	0	0	0	2	2	2
	0	1	0	--	0	0	1	1	0	3	3	3
Blackville	0	0	0	--	0	--	0	0	0	0	0	0
S. C.	0	0	0	--	0	--	0	0	0	0	0	0
8-29-46	0	0	0	--	1	--	0	0	0	0	0	0
	1	0	0	--	0	--	0	0	1	0	0	1
Blackville	0	0	0	--	0	--	1	0	0	1	0	0
S. C.	0	0	0	--	0	--	1	0	0	0	0	0
8-29-46	0	0	0	--	1	--	0	0	0	0	0	0
	0	0	0	--	1	--	0	0	0	1	0	0
Baton Rouge	0	2	0	0	1	--	3	5	4	4	4	5
La.	1	2	0	0	0	--	2	5	3	3	3	5
8-15-46	0	2	0	0	1	--	2	5	2	5	4	5
	0	2	1	--	1	0	2	5	3	5	3	4
Average	0.1	0.8	0.2	0.1	0.4	0.3	0.8	1.0	0.7	1.6	1.3	1.6

Table 9. Frogeye ratings in soybean nurseries at several locations in 1946. Group VIII

Location	Variety								
	Mamloxi	Acadian	Mamotan	Nanda	Gatan	Seminole	Cherokee	Louisiana Green	Coker's Sel. #433
Fairhope, Ala.	C	1	C	C	1	1	1	C	C
8-16-46	C	C	C	C	C	C	1	C	C
	C	1	1	C	1	1	1	C	C
	C	1	1	C	1	C	1	C	C
Stoneville, Miss.	1	C	C	1	1	C	1	C	C
8-14-46	C	C	C	C	C	C	C	C	C
	C	1	C	1	1	1	1	C	C
	1	1	1	1	1	1	1	C	1
Stoneville, Miss.	1	1	C	C	1	1	1	C	C
8-14-46	C	1	C	C	1	C	1	C	C
	C	C	C	C	1	C	1	C	C
	1	1	C	C	1	1	1	C	C
Baton Rouge, La.	1	5	1	C	5	1	3	1	C
8-15-46	1	5	C	1	5	1	3	1	C
	1	5	1	1	5	1	4	1	C
	C	5	C	1	5	1	2	1	C
Average	C.4	1.8	C.3	0.4	1.9	C.6	1.4	0.3	0.1

Table 10. Mosaic ratings in soybean nurseries at several locations in 1946. Group VI

Location	Variety									
	Ogden	Rose Non-pop	2-40A	Arksoy 2913	Dortchsoy #2	Dortchsoy #7	Burdette #13	Burdette #19	Burdette #20
Tallassee, Ala. 7-22-46	1	3	1	2	1	2	2	1	1
	1	3	1	2	1	2	3	2	2
	1	3	2	2	1	1	2	1	2
	1	3	1	2	1	2	2	2	2
Fairhope, Ala. 8-16-46	1	1	0	0	1	0	1	0	1
	0	0	0	0	0	0	2	0	1
	0	1	0	0	0	0	1	0	1
	0	1	0	0	0	0	1	0	1
Stoneville, Miss. 8-14-46	1	1	1	0	1	1	1	1	1
	1	1	0	0	1	0	0	0	0
	0	1	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Stoneville, Miss. 8-14-46	1	1	0	1	1	1	2	1	1
	1	1	1	1	0	1	2	0	0
	1	3	2	1	1	0	2	1	1
	1	0	1	1	0	0	1	0	0
Average	0.7	1.4	0.6	0.8	0.6	0.6	1.4	0.6	0.9

Table 11. Mosaic ratings in soybean nurseries at several locations in 1946. Group VII

Location	Variety											
	Roanoke	Ogden	Vol-state	F.C. 30261-1	Wood's Yellow	P.I. 54618-4-1-2	N44-774	Pal-metto	C-N-S	N42-26	N44-92	Red Tanner
Tallassee Ala. 7-22-46	2	1	1	--	2	--	2	2	3	1	1	2
	1	1	1	--	1	--	1	3	2	1	2	2
	2	1	2	--	1	--	2	3	3	2	1	1
	2	1	1	--	2	--	2	2	2	2	2	1
Fairhope Ala. 8-16-46	1	0	0	1	1	--	2	1	1	1	1	2
	1	1	1	1	1	--	1	3	2	2	2	3
	0	0	0	0	1	--	3	3	1	2	3	3
	0	0	1	0	0	--	3	2	2	1	2	3
Stoneville Miss. 8-14-46	1	0	1	--	1	1	1	3	1	1	0	3
	1	0	1	--	1	1	1	3	1	1	0	3
	0	0	0	--	1	0	0	1	1	1	0	1
	0	0	0	--	0	0	0	1	1	0	0	1
Stoneville Miss. 8-14-46	2	1	1	--	2	2	2	4	1	1	2	2
	1	1	1	--	1	1	3	2	2	1	1	1
	1	1	1	--	1	1	3	3	1	1	2	3
	0	0	1	--	0	0	1	1	0	0	1	1
Baton Rouge La. 8-15-46	0	0	0	--	0	--	0	1	0	0	0	0
	0	0	0	--	0	--	1	1	0	0	0	1
	0	0	0	--	1	0	0	0	0	0	1	1
	0	0	0	--	0	0	0	0	0	0	0	1
Average	0.8	0.4	0.7	0.5	0.9	0.6	1.4	2.1	1.2	0.9	1.1	1.8

Table 12. Mosaic ratings in soybean nurseries at several locations in 1946. Group VIII

Location	Variety								
	Manitoxi	Acadian	Mamotan	Nanda	Gatan	Seminole	Cherokee	Louisiana Green	Coker's Sel. #433
Tallassee, Ala.	1	2	1	1	1	1	2	2	1
7-22-46	2	3	2	1	1	1	3	2	1
	1	2	1	1	1	1	3	2	1
	1	1	1	2	1	1	2	2	0
Fairhope, Ala.	3	3	3	1	2	2	1	2	1
8-16-46	3	3	2	1	2	2	1	2	1
	2	3	2	1	2	2	1	2	1
	1	3	1	1	2	2	2	3	1
Stoneville, Miss.	1	1	1	1	1	2	1	2	1
8-16-46	0	0	0	1	1	1	0	2	1
	1	1	0	1	1	1	0	1	1
	0	1	1	0	1	1	1	2	0
Stoneville, Miss.	1	3	3	3	1	4	3	4	1
8-14-46	1	1	1	1	1	2	2	3	1
	1	0	1	1	1	2	2	1	1
	0	2	1	1	2	2	1	1	0
Baton Rouge, La.	1	1	0	1	0	3	1	2	1
8-15-46	1	1	0	1	2	3	0	2	1
	1	1	0	1	2	3	2	2	0
	1	2	0	1	1	3	1	3	1
Average	1.2	1.7	1.1	1.1	1.3	2.0	1.5	2.1	0.8

Table 13. Summary of the average disease ratings of the strains of the Uniform Soybean Test, Group IV-S, for 1944, 1945 and 1946

Strain	Pustule-blight			Wildfire			Downy mildew		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
S100	2.3	2.4	4.0	1.0	2.5	3.6	0.5	0.8	0.5
C101	1.9	2.4	3.4	1.0	1.8	2.9	0.3	0.4	0.0
Patoka	2.0	2.0	3.5	0.8	0.8	2.3	0.8	2.2	0.3
S55-19	--	2.5	3.5	--	0.8	3.3	--	2.2	0.0
Gibson	2.4	2.8	3.7	1.0	3.0	3.9	0.3	1.0	0.0
Hongkong	--	2.0	3.0	--	0.0	2.0	--	1.0	0.0
Lincoln	--	--	3.9	--	--	1.5	--	--	0.0
Macoupin	1.9	2.6	--	1.0	1.3	--	0.8	0.0	--
Boone	2.1	2.6	--	1.0	1.5	--	0.8	2.4	--
Chief	1.4	2.2	--	1.0	2.0	--	0.0	0.0	--
S55-10	2.1	2.0	--	1.0	1.8	--	1.0	2.8	--
S55-35	2.2	2.0	--	0.8	0.8	--	1.8	2.0	--

Table 14. Summary of average disease ratings of the strains of the Uniform Soybean Test, Group VI, for 1944, 1945, and 1946

Strain	Pustule-blight			Wildfire			Frogeye			Downy mildew		
	1944	1945	1946	1944	1945	1946	1944	1945	1946	1944	1945	1946
Dortchsoy #2	--	--	1.5	--	--	0.9	--	--	0.6	--	--	0.3
Ogden	1.2	2.0	1.5	0.8	0.3	0.7	0.8	0.8	1.4	--	0.6	0.4
Burdette #20	--	--	2.5	--	--	1.4	--	--	1.9	--	--	0.2
2-40A	1.7	3.2	2.8	1.0	0.5	1.6	0.5	0.3	0.4	--	0.0	0.1
Burdette #19	--	--	3.0	--	--	1.9	--	--	0.1	--	--	0.2
Dortchsoy #7	--	--	3.1	--	--	2.0	--	--	0.3	--	--	0.1
Rose Non-Pop	--	3.0	2.8	--	1.1	2.0	--	1.0	1.6	--	0.0	0.2
Burdette #13	--	--	3.0	--	--	1.8	--	--	0.6	--	--	0.3
Arksoy #2913	1.7	3.2	3.1	0.9	0.7	1.9	0.0	0.3	0.4	--	0.2	0.0
Ralsoy	1.8	3.3	--	0.9	0.7	--	0.3	0.3	--	--	0.8	--
Mamredo	2.1	3.3	--	1.0	0.7	--	0.8	0.7	--	--	0.2	--
Magnolia	1.7	3.0	--	1.0	0.5	--	0.0	0.9	--	--	0.3	--
Armredo	1.5	3.0	--	0.9	0.4	--	1.3	1.1	--	--	0.2	--
6-40M	1.9	3.4	--	1.0	0.4	--	0.3	0.4	--	--	0.1	--
P.I. 97066	1.5	2.7	--	0.8	0.5	--	1.5	1.2	--	--	0.0	--
Delsoy	--	3.0	--	--	0.9	--	--	1.2	--	--	0.0	--
N41-39	1.8	--	--	0.9	0.9	--	1.0	--	--	--	--	--
26-39M	1.3	--	--	1.0	--	--	--	--	--	--	--	--

Table 15. Summary of average disease ratings of the strains of the Uniform Soybean Test, Group VII, for 1944, 1945, and 1946

Strain	Pustule-blight			Wildfire			Frogeye			Downy mildew		
	1944	1945	1946	1944	1945	1946	1944	1945	1946	1944	1945	1946
N44-92	--	--	2.0	--	--	0.8	--	--	1.3	--	--	0.4
Ogden	1.8	1.9	1.6	0.8	0.4	0.4	0.8	0.5	0.8	--	0.8	0.3
N44-774	--	--	2.3	--	--	0.7	--	--	0.8	--	--	0.2
Roanoke	2.2	2.8	2.8	1.8	0.8	1.7	0.6	0.0	0.1	--	1.1	0.3
N42-26	--	--	2.3	--	--	1.0	--	--	1.6	--	--	0.2
Wood's Yellow	1.9	2.4	2.4	1.8	0.8	1.4	0.5	0.3	0.4	--	1.9	1.4
Volstate	2.1	2.7	2.7	1.3	0.8	1.5	0.3	0.0	0.3	--	1.1	0.5
C-N-S	1.1	1.8	1.2	2.0	0.6	0.5	0.3	0.0	0.7	--	1.9	0.7
Palmetto	1.6	2.2	1.3	1.1	0.6	0.4	0.6	0.2	1.0	--	0.6	0.2
Red Tanner	--	--	2.4	--	--	1.0	--	--	1.6	--	--	0.1
F. C. 30261-1	--	--	2.2	--	--	0.4	--	--	0.1	--	--	0.0
P.I. 54618-4-1-2	--	--	2.1	--	--	2.3	--	--	0.3	--	--	0.1
Tenn. Non-Pop	2.3	--	--	1.5	--	--	1.3	--	--	--	--	--
Rose Non-Pop	2.4	--	--	0.6	--	--	1.0	--	--	--	--	--
Monetta	2.3	2.9	--	1.8	1.1	--	0.6	0.2	--	--	0.6	--
P.I. 85355	2.0	--	--	1.6	--	--	0.5	--	--	--	--	--
Missoy	1.9	2.5	--	1.5	1.0	--	1.4	1.0	--	--	0.4	--
P.I. 89775-A	2.3	3.0	--	1.5	1.0	--	1.7	1.5	--	--	0.6	--
Mamloxi	2.3	--	--	1.4	--	--	0.7	--	--	--	--	--
Auburn #1	2.3	--	--	1.3	--	--	0.3	--	--	--	--	--
Tokyo	1.9	--	--	1.3	--	--	0.6	--	--	--	--	--
26-39M	--	2.5	--	--	0.8	--	--	0.2	--	--	1.9	--

Table 16. Summary of average disease ratings of the strains of the Uniform Soybean Test, Group VIII, for 1944, 1945, and 1946

Strain	Pustule-blight			Wildfire			Frogeye			Downy mildew		
	1944	1945	1946	1944	1945	1946	1944	1945	1946	1944	1945	1946
Mamotan	2.1	2.4	2.7	1.4	0.7	1.3	0.5	0.2	0.3	--	1.1	0.5
Nanda	2.4	2.9	2.8	1.6	0.9	1.6	0.5	0.1	0.4	--	0.9	0.6
Mamloxi	--	2.6	2.7	--	0.8	--	--	0.2	0.4	--	1.3	1.2
Acadian	2.2	2.8	2.3	0.8	0.9	1.6	0.8	0.3	1.8	--	0.1	0.1
Louisiana Green	--	--	0.9	--	--	0.6	--	--	0.3	--	--	0.4
Coker Sel. #433	--	--	2.6	--	--	1.5	--	--	0.1	--	--	0.2
Gatan	1.8	2.6	2.4	1.4	0.6	0.7	1.3	0.6	1.9	--	0.1	0.1
Cherokee	1.6	1.9	1.4	0.8	0.2	0.4	1.0	0.6	1.4	--	0.4	0.1
Seminole	2.1	2.6	2.3	1.1	0.6	0.8	0.9	0.3	0.6	--	0.6	0.1
Wood's Yellow	2.0	2.6	--	1.4	0.9	--	0.6	0.2	--	--	1.4	--
Delsta	2.2	2.7	--	1.4	0.7	--	0.5	0.2	--	--	1.0	--
Pelican	2.5	2.8	--	1.2	1.2	--	0.6	0.2	--	--	0.3	--
Avoyelles	1.8	2.2	--	0.8	0.6	--	1.9	0.9	--	--	0.1	--
L.Z.	2.3	2.8	--	1.1	1.0	--	0.6	0.4	--	--	0.4	--
Red Tanner	--	3.0	--	--	0.7	--	--	1.0	--	--	0.0	--

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